THE HEBREW MUSICAL ACCENTS (*TE`AMIM*)

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The Hebrew Masoretic Text contains (among other things) three basic sets of symbols related to verbal meaning: the consonants, the vowel-points (with associated graphemes such as the *maqqef* or hyphen and the *dagesh* or dot), and the accents (*te`amim*). The name for the accents, *te`amim* (singular *ta`am*), comes from the verb *ta`am*, "to taste, discern, appreciate, etc." Sometimes the accents are called *ta`amê miqra'*, "the accents of Scripture (in the sense of what is *recited* rather than *written*)". In effect, the *te`amim* are meant to enable the reader and the listener to *discern and appreciate the sense* of the often-ambiguous Hebrew words.

The system of accentuation and vowel-pointing in our Masoretic Text is properly called "Tiberian", after the scribes of Tiberias, Galilee who copied it.[1] The "Tiberian" accentuation is founded in two systems: the *psalmodic* (found in Psalms, Proverbs and the body of Job) and the *prosodic* (found in the prologue and epilogue of Job and in all the other books). The prosodic[2] system is actually much the more complex system and the foundational one, with more graphemes in use in more complicated relationships with each other and with the words. The most complex relationships between the *te`amim* and the words are apparently found in the Pentateuch.

The earliest securely dated manuscript containing the "Tiberian" accents and vowel-points is the "Codex of the Prophets" by Moshe ben Asher, completed in 895 CE. Some manuscripts and fragments may date as early as 820-850 CE or even earlier. Moshe ben Asher stated in the colophon to his Codex that he copied the verbal text, with its accents and vowels, "as it was understood by the Community of Prophets" – probably a reference to the medieval Jewish sect of Karaites. In a separate poem called "The Song of the Vine", ben Asher claimed that a family of Second Temple priests known as the Elders of Bathyra had "established the accents of Scripture, giving [its] sense and interpreting its word." Ben Asher likewise waxed rhapsodic about the multiple significance of the word *te`amim*, pointing thereby to both the *exegetical function* and the *tonal basis* of the accents.

Dr. Rochelle Altman has recently remarked on some Dead Sea Scroll fragments that appear to have accents similar to some found in the "Tiberian" notation.[3] Musicologist and Hellenist Denise Jourdan-Hemmerdinger notes that there is a pre-Christian system of Greek accentuation which has all the graphic forms found in the "Tiberian" *te`amim* (though differently arranged), supporting the idea that the "Tiberian" accentuation is likewise pre-Christian.

The accentuation itself is a transcription of a system of conducting vocal music by means of gestures of the hand and/or fingers. Such a musical system is called *chironomy*. A number of the original gestures were preserved in a Yemenite

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[1] There were two other accent systems used in Palestine and Babylonia and dating from the 4th-7th centuries CE. These were designed (it appears) to annotate local synagogue traditions.
[2] When using the terms "prosodic" and "prosody" on the one hand and "psalmodic" and "psalmody" on the other, I allude to the ancient meanings of the Greek terms *prosodia* and *psalmodia* (both of which referred to verbal texts sung to instrumental accompaniment).
[3] In particular, *geresh*, one of the superlinear *te`amim* (those found above the Hebrew words).

Hebrew source dating from the 12th century, translated into French as the *Manuel du Lecteur* ("Reader's Manual", one of several medieval manuals of its type). However, while a number of ancient synagogues use gestures in parallel with the written graphemes (the custom being noted in Jewish literature since the first century), none seem to use the original gestural system.

THE MASORETES' SYNTACTIC PARADIGM FOR THE ACCENTUATION

The Masoretic and post-Masoretic Jewish sources are clear that the *te`amim* are *melodic, syntactic and rhythmic* in significance and *exegetical* in function. They define the melody to which the Scripture is sung in public reading; they mark the stressed syllables in the reading; and they show which words are at the ends of verses and phrases and which ones are to be connected within phrases. In effect, the accentuation is but a magnification of the natural vocal inflection of speech, with its implied punctuation and phrasing. So Moses "*spoke* all the words of this *song*" by such a "speech-song", called *cantillation* (Deuteronomy 31:30). So David wrote: "Your statutes have been my *songs* (*zemirot*, songs accompanied by harp or lyre) in the house of my pilgrimage" (Psalms 119:54).

It is typically believed today that the interpretations of the *te`amim* by the Masoretes (beginning with Moshe ben Asher's son Aharon, fl. 930 CE) and their grammarian successors to the present represent the original *syntactic* meaning of the "Tiberian" *te`amim*. Likewise, it is typically believed today that one or another form of synagogue chant represents more or less closely the original *melodic* meaning. It is true that the Masoretes and grammarians, with the cantors of the synagogue, have understood the *significance* and *function* of the notation. But does it follow from this that they have understood its actual *meaning*?

Consider: The "Tiberian" notation appears as it were "out of nowhere", fully formed, by the end of the 9th century.[4] Only after that does the first *tentative* study of the interrelationships between the *te`amim* appear (in a treatise by Aharon ben Asher, ca. 930[5]). Only by the 12th century (in the *Manuel du Lecteur* and similar reader's manuals) do we find a relatively systematic set of "grammatical rules" for the *te`amim* worked out. Only by the Renaissance are those rules brought to more or less the state of completeness that they have today. Even now, specialists using computers[6] study different manuscripts to test and affirm these rules and the consistency of their application.

The "syntactic paradigm" (as I call it) first stated by Aharon ben Asher is accepted as valid by virtually everyone in Masoretic studies. That paradigm divides the *te`amim* into three classes: 1) the "disjunctives", which are found on words that end a verse or phrase; 2) the "conjunctives", which are found on words within a phrase; and 3) the so-called *ga`ya*, a vertical sign often considered not a *ta`am* at all, which is neither disjunctive nor conjunctive but acts as a sort of "bridle" on how quickly one sings a syllable (thus its alternate name, *meteg*).

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[4] There was a famous biblical manuscript called "Jericho", now lost, found ca. 800 in a cave near the Dead Sea. Its discovery and study, along with other manuscripts from the same cache, by the Karaites at Jerusalem apparently triggered the work of the Masoretes. *Within as little as 20-50 years* and no more than 95 years, the oldest codices containing the "Tiberian" notation fully spelled out appear.

[5] The *Diqduqê ha-Te`amim*, "Grammatical Rules of the Accents".

[6] Such as the late Gérard E. Weil and James D. Price.

But as others have noted, this paradigm does not explain most of the physical features of the accentuation or of its relationship to the words. (How much this is true I will illustrate shortly). Note too that while the accentuation itself appeared fully formed by 895 CE, it took no less than three centuries to come up with a seemingly coherent explanation of its grammatical rules.[7] Is this not evidence that the Masoretes and later grammarians worked with a notation of which they understood the *significance* and *function*, but not the actual *meaning*?

A "THOUGHT EXPERIMENT"

Let us conduct what Albert Einstein called a "thought experiment". Let us assume that the Masoretes had received a notation (as they said) which they knew was *melodic, syntactic and rhythmic*. Let us also assume (as the evidence strongly suggests) that the original meaning was unknown to them and their grammarian successors. Not being musicians themselves, and being used to the synagogue chant of their time (which chant likewise was more *syntactic* than *melodic* in nature[8]), they would have naturally assumed the exegetical meaning was paramount. Being clever and careful, they would have sought out a "Rosetta Stone" by which the notation could be deciphered.

In order to decipher an unknown notation, one must have two things:

1) One must know the significance of the unknown notation itself;
2) One must have a parallel text containing common information with which to compare the unknown notation.

On the actual "Rosetta Stone" we have a truly "trilingual" text: a Greek text and an Egyptian text written in two different scripts. The Greek script was known, the Egyptian hieroglyphic and demotic scripts were not. The British physicist Thomas Young and the French Egyptologist Jean François Champollion, finding places where the Greek text and the Egyptian text contain common information, were able to decipher the two versions of the Egyptian text.

When one has a "virtual bilingual" text, by contrast, one has two parallel texts that have information in common, yet the two texts are of different genres. Here, we have an accentual text (the *te`amim*) and a verbal text (the Hebrew text). Both have verses, clauses and phrases – in short, *syntax* – in common. So the Masoretes and their grammarian successors began their analysis (in effect, their *decipherment*) of the *te`amim* on these premises:

1) They took the significance of the *te`amim* as *melodic, syntactic and rhythmic*, but treated the *syntactic* aspect as primary;
2) They compared the syntax of the *te`amim* as a notational system against the syntax of the Hebrew verbal text.

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[7] Not that this stopped various scribes, beginning with Aharon ben Asher and another scribe named ben Naphtali, from coming up with various opinions as to how this or that part of Scripture should be accented, sometimes (it appears) even contrary to the received tradition. The Leningrad B-19 Codex, the oldest complete codex after the Aleppo Codex of Aharon ben Asher, shows signs of multiple erasures and rewrites of its accentuation, apparently with the aim of making the accentuation more "self-consistent" according to the syntactic paradigm.

[8] At that time, it was a simple "*aide-memoire*": a rising and falling phrase with at best some melodic ornaments at the ends of verses and phrases (*cadences*). The marginal notes of the Masoretic Text and the reader's manuals refer to *this* kind of chant – *not* to the much more ornate style that came to its full development with the rise of professional cantoral schools in Europe.

According to the premises of their paradigm, the very distinctions between the *te`amim* themselves were made, each *ta`am* defined according to its supposed syntactic function in context.

Let us continue to follow in the Masoretes' footsteps. The first thing one notices about the *te`amim* (from the perspective of the Masoretic paradigm) is that some graphemes are found at the end of verses, clauses and phrases and some within phrases, effectively dividing and connecting the verbal text (i.e., there are *disjunctive* and *conjunctive graphemes*). Yet also, some graphemes are found above, some below the words (i.e., there are *superlinear* and *sublinear graphemes*). Moreover, there is no strict relationship between the placement of a grapheme above or below the words and its placement at the end of a verse, clause or phrase. In fact entire verses, clauses and phrases may be marked by sublinear graphemes only, while only certain clauses and phrases may be marked by superlinear graphemes only. Already one comes to what looks like a *reductio ad absurdum*, disproving premise 1) (the *te`amim* are *primarily syntactic*), for this finding implies that the *melodic* function predominates. In order to save the first premise, one must add another:

3) The placement of graphemes above and below the words is both *syntactically and melodically* irrelevant.

One sublinear grapheme, the vertical *silluq* ("end, final"), is found marking the final stressed syllable at the end of virtually every verse. It would therefore be the strongest "disjunctive". Well and good. But an identical grapheme, by far the most common of all when taken with *silluq* (or even alone), is found on the lesser stressed syllables in words found everywhere within phrases and at the end of phrases and verses. The grapheme itself is found in close association with every other grapheme (even once or twice on the same word with *silluq* itself). Once again we come to an apparent absurdity: how can the same grapheme be the strongest "disjunctive" in one place and be anything *but* a "disjunctive" (or even a "conjunctive") everywhere else? Once again we are forced to add an assumption:

4) Graphemes with the same form but different placements within a verse (and therefore different syntactic functions) must represent different "accents" or *te`amim*.

This premise comes up repeatedly when dealing with other graphemes, both in prosody and in psalmody.[9] And so in this case, the grapheme is called by its ancestral name (*silluq*) when found at the very end of a verse and *ga`ya* or *meteg* everywhere else (even if found once or twice on the same word as *silluq*); and the two are assigned completely different meanings in the Masoretic paradigm.

In some cases one finds graphemes which are found both above and below the words. These are not difficult to distinguish by their position as separate *te`amim*. But sometimes a sublinear grapheme is found in the same syntactic

[9] Notorious in this respect is *munach*, which has no less than *five* different grammatical functions attributed to it by the later Masoretic "reader's manuals" and by the later forms of synagogue chant as well. Some of those functions are supposed to be more or less disjunctive, others more or less conjunctive. The secondary names attributed to the *ta`am* by the early readers' manuals are supposed to denote these untranslatable nuances of function. In modern treatises only two names are generally given, *munach* and *legarmeh*.

position as a superlinear grapheme, yet it has a different form and is placed on a different syllable indicating a different rhythm. In such a case, it is assumed to have the same syntactic function and a slightly different melodic and rhythmic function. Thus we have yet another added premise:

5) Graphemes with different forms but similar placements within a verse (and therefore with similar syntactic functions) must represent musical variants of the same "accent" or *ta`am*.

One could go further, and show that the Masoretic paradigm does not attempt to explain (in most cases) the exact forms of the various graphemes, their placements relative to a syllable, their exact order (in the case of the conjunctives) within a phrase, or even the meaning of their ancestral names. Rather, the paradigm itself redefines graphemes which by all indications were once but one *ta`am* as two or more *te`amim*, or vice versa, and renames them accordingly, thus giving more names to the overall system than there are graphemes in the system.

The Masoretes themselves and their successors only knew of the simplest forms of synagogue chant, and attempted to define a very few graphemes as markers of it (the lists of what grapheme represents what musical meaning vary from source to source). Once the notation itself was published, the synagogues step by step adopted their chants to fit the rules the Masoretes and grammarians derived for the notation. The process proceeded farthest among the Ashkenazi Jews of Europe, in the Torah reading.

OTHER DECIPHERING PARADIGMS

Many since at least the Renaissance have concluded that the Masoretes, grammarians and synagogues did not preserve the original meaning of the "Tiberian" *te`amim* and have sought to decipher them independently as a musical notation.[10] Their efforts failed, however, in that they either did not start from the correct premise as to the significance of the notation or they did not start with the correct "virtual bilingual" with which to compare it. Many indeed have realized the notation was primarily melodic rather than primarily syntactic, but their standard of comparison has been synagogue chant, or one or another form of Christian chant, or even the music theory of their own day (or of their own imaginations).

We may say that their attempts have failed for the same reason we may say that the Masoretic paradigm has failed: *none of these deciphering paradigms explain all the salient features of the notation or of its relationship to the words*. Were such standards applied to a notation found by archaeologists, the results universally would be held as questionable (if not simply rejected out of hand).

[10] Some (such as the late grammarian and Masoretic specialist Gérard E. Weil) have treated the *te`amim* as if they had no musical meaning at all. Weil's computerized analysis has the same basic faults as the Masoretic paradigm itself, since it starts with the "tables of accents" developed by that paradigm.

SUZANNE HAÏK-VANTOURA'S MELODIC PARADIGM

Given this perspective, the melodic paradigm developed by the late Suzanne Haïk-Vantoura is unique. She started from the following premises:

1) The *te`amim* are *melodic, syntactic and rhythmic* in significance, but the *melodic* aspect is primary;[11]
2) The syntax of the *te`amim* as a notational system is parallel to and shares information in common with the syntax of the Hebrew verbal text.

As analyzed under these premises, the first thing that one notices is the *sublinear and superlinear placement* of the graphemes. Entire verses, clauses and phrases may be marked by sublinear graphemes only, while only certain clauses and phrases may be marked by superlinear graphemes only. This means that the sublinear graphemes predominate in some melodically related fashion over the superlinear graphemes. The sublinear graphemes may therefore be deciphered first as a set.

As it happens, there are eight common sublinear graphemes, three of which are found most commonly on or near major *cadences* (the ends of verses and clauses: the major "disjunctive" points). One of these (the most common grapheme of all) is found at the end of every verse, but also in combination with every other grapheme in places all over the verse. It is also found repeated several times on a word, especially at the ends of verses. A grapheme that has so many different placements and associations in a musical verse can only represent a single note: by definition, the *tonic or final degree* of a musical scale. This suggests that all the other sublinear graphemes are likewise notes of a scale. Yet there are *eight* common sublinear graphemes in prosody and *seven* of them in psalmody. This too is strongly suggestive. *Eight* is the number of degrees in a normal octave. *Seven* is an octave minus one degree, significant of itself.

Upon testing thousands of verses, Haïk-Vantoura determined that *silluq* (the vertical grapheme), *atnach* (found at the half-cadences) and *munach* (found at the suspensive cadences and also within phrases) are the 1st, 4th and 5th degrees of a tonal scale, respectively. Their placement and function within a verse or phrase fit the *natural proclivities* of those degrees as the human ear perceives them. We already know that the 1st or tonic is where the verse ends (and often begins); this is only natural. Yet it is equally natural for the melody to return to the tonic again and again in order to "bridle" its flow on a word or syllable, and even at the same time to repeat the tonic note two or three times on a word to emphasize the final cadence of a verse. Likewise the 4th degree is naturally suited to *divide* a verse, whereas the 5th degree indicates either a *suspension* (at the cadence) or a c*ontinuation* (within a phrase), acting musically as a "dominant" in either case.

Thanks to her use of interminable statistical tables[12] and to her rigorous comparison of hypotheses against the Hebrew verbal syntax, Haïk-Vantoura was able to eliminate one possible meaning after another for each sublinear grapheme in

[11] Haïk-Vantoura (following the lead of a French encyclopedia of music) treated the notation as *ancient*, *musical*, and of *unknown meaning*. A truly *musical* notation is indeed melodic, syntactic and rhythmic in significance, but with the melodic aspect predominating.

[12] These were parallel to those that must have lain behind the Masoretic readers' manuals, as the latter have lists of what "*te`amim*" as defined by the Masoretic paradigm may follow in what order and where examples of such sequences are found.

prosody and to put them in proper order within the scale.[13] With that additional framework in mind, she was able to decipher the superlinear graphemes one by one, while still comparing possible meanings against the Hebrew verbal syntax. The psalmodic system (which shares many graphemes with the prosodic system) was deciphered in like manner. The resulting *deciphering key* (first published in 1976 in book and LP form) correlates the written form, the ancestral name and the musical meaning of each *ta`am* as defined by the melodic paradigm. Upon examination, I discovered that the existing descriptions of the hand-gestures behind the graphemes[14] also correlated with the graphemes' names, forms and musical meanings, giving me enough information to reconstruct the entire original chironomy.[15]

SUMMARY OF THE MECHANICS OF HAÏK-VANTOURA'S KEY

1) The sublinear graphemes represent *degrees of the scale*. When one is written, its value is sustained on that syllable and all the following syllables until another sublinear grapheme appears.

2) The superlinear graphemes represent *ornaments of one to three notes* on the syllables they mark. Their pitch is always relative to that of the preceding sublinear sign. For example, *zaqef qatan* always means "go down one degree from the degree indicated by the preceding sublinear grapheme". If it follows *munach* (5th degree), then it means "go down to the 4th degree". If it follows *silluq*[16], then it means "go down to the 7th degree below the 1st degree."

3) In prosody, the tonic note is on the 3rd degree of the octave (not on the 1st and the 8th as in modern Western music). In psalmody, the tonic note is on the 2nd degree (the bottom two graphemes of the prosodic scale having been removed and replaced by another grapheme).

4) In prosody, the rhythm is that of normal speech somewhat magnified. In psalmody, the rhythm is one beat per syllable, rather like Gregorian chant. This is inferred by the relationship of the verbal rhythm to the melodic syncopation, as there are no special rhythmic graphemes in the *te`amim*. (However, the positions of the graphemes – especially the superlinear graphemes – relative to a word or syllable have rhythmic significance.)

5) Like many ancient notations (especially those transcribing chironomy), the *te`amim* only define the *genre* of the scale,[17] not the *mode* or scale type[18] used in any one text. Fortunately, the system was evidently designed so that the experienced reader may infer the modality by how the melody relates to

[13] In time she was able to do likewise for the rare sublinear graphemes within prosody and psalmody. James D. Price pointed out an error in her decipherment of the rare sublinear sign in prosody, *merkha ketufah*; it is a combination of two common sublinear graphemes, not of a sublinear and a superlinear sign as Haïk-Vantoura thought. Once corrected according to Dr. Price's input, however, the resulting melodic interpretation was greatly improved (and yet not all that dissimilar from the original).
[14] As published in Jules Derenbourg, "Manuel du Lecteur", in *Journal Asiatique* (Oct.-Nov.-Dec. 1870) and cited in part in Haïk-Vantoura's book (French and English editions).
[15] As published on my Web site, http://www.rakkav.com/kdhinc/.
[16] Which, remember, is one and the same as "*ga`ya*" in Haïk-Vantoura's paradigm.
[17] Technically, the genre is "diatonic-chromatic". Imagine playing on the white keys of the piano to get the basic scale, yet being able to replace one or more of these keys with black keys to get different modes and temporary alterations ("accidentals" used rather after the fashion of the medieval *musica ficta*).
[18] C D E F G A B C is a different *mode* or scale "type" from C D E F# G A B C, even though the scale *genre* is the same (diatonic-chromatic).

the verbal grammar.[19] The wrong "mode" (and there are very few possible choices in any given text) will give too much emphasis to unimportant words and not enough to important ones. The right mode will not only give the proper relative grammatical emphasis, but it will also make the verbal meaning "come alive".

6) The "resolution" of the ornaments sometimes must be inferred as well. Here again, the system was evidently designed so that the experienced reader will quickly reconstruct the right rendition; the ornamentation (as part of the overall rhythmic syncopation of the melody) is related to the verbal accentuation[20] and also to the punctuation.

THE IMPLICATIONS OF HAÏK-VANTOURA'S THESIS

Space forbids more than a brief summary of the implications of Haïk-Vantoura's work. Among the most important are the following:

1) The melodies preserved by the *te`amim* (in the Letteris Edition, Haïk-Vantoura's base text) are structurally interwoven with the words they support in such a way that they form a *syntactical whole*: what the ancient Greeks called a *melos* (a "gestalt" of music and words).[21]

2) The existence of such a *melos* indicates that the melodies and words were written by the same authors at the same time and transmitted together accurately. In effect, the musical system formed part of the "fence around the *Torah*" that kept it from becoming seriously corrupted by scribal errors.

3) The *melos* found in various books reflects not only the personalities of their various authors, but the historical circumstances in which they live, as their own works and those of others describe them. As with any poet-composer at any time, the various biblical authors (especially Moses and David) had certain idiosyncratic preferences in musical and lyrical style.

4) The *melos* of the Hebrew Bible confirms the essential unity of each of the biblical books, sections or chapters that are ascribed to one author (e.g., the Pentateuch, the Psalms of David and of other Psalmists, Isaiah, the Song of Songs, etc., etc.). It also shows links between different books or chapters ascribed to the same author, even across the lines of prosody and psalmody (e.g., the Song of Songs, Proverbs, Psalm 127 and Ecclesiastes by Solomon, or the Song of the Ark, The Bow and many Psalms by David).

5) The rediscovered melodies enable us to address exegetical questions that have hitherto remained debatable, even insoluble (some simple examples being the meaning of the technical musical terms of the Psalms, the validity of their headings, and the meaning of *selah*, a sung exclamation which is now definable as "Weigh this!").

[19] In fact the melodic modality and the verbal grammar are closely parallel and share common information.
[20] Again, the two are closely parallel and share common information.
[21] Such vocal music is called "*melogenic*". Music with such characteristics is by definition the music of high culture in any time and place.

6) The rediscovered melodic system fits not only what we know of the *conducting systems* of antiquity, but the *harp and lyre tuning and playing techniques* of antiquity.

7) The rediscovered melodic system confirms that there were *two* levels of sacred music in ancient Israel, particularly in the Second Temple period: that of the Temple (professional music, and therefore *melogenic*), and that of the synagogue (primitive or folk music, and therefore either logogenic, pathogenic or a mixture of the two).[22]

8) The rediscovered melodic system shows that there was indeed an *indirect* link between Temple music, the most ancient forms of synagogue music and early Christian music. Pilgrims to the Temple heard, remembered, and took with them fragments of the Temple music to their local synagogues, and the early Christians also picked up some fragments either in the synagogues or during their own visits to the Temple.[23]

9) The rediscovered melodic system allows us to discuss *common threads* between the various forms of art music of antiquity and later periods leading to the present. In particular, the rediscovered music contains compositional techniques apparently lost at the end of classical antiquity and not rediscovered in the West until the Renaissance and Baroque periods. It also allows us to address afresh the question of *ethos* or "moral force" in music, as important for the practicing sacred or secular musician as it is for the philosopher or historian.

10) In Haïk-Vantoura's paradigm, the "disjunctive" and "conjunctive" roles of the *te`amim* are not only preserved, but *clarified* (especially in the psalmodic system). Haïk-Vantoura wrote in her book that *no ta`am* is *strictly* "disjunctive" or "conjunctive". While that may be overstating the case, the fact remains that her deciphering key resolves a number of *ambiguities* in the hierarchy of the *te`amim*. This is because the melodic system underlying the *te`amim* is a complex of *four* (defined another way, *five*) interacting factors which influence one's understanding of verbal meaning. For example, the degree of the scale that marks the cadence of a verse, clause or phrase marks the punctuation point of that cadence. Yet the sequence of degrees leading up to that cadence (the melodic *texture*, parallel to the verbal *state of action*) influences how one is to understand that punctuation point (as a comma, period, semicolon, question mark, exclamation point, etc.).

RECEPTION OF HAÏK-VANTOURA'S THESIS

When the original French book was first published, it included the preliminary reviews of a very long list of renowned specialists in France and Israel: musicians, composers, musicologists and even Hebraists and Masoretic scholars. Some of the

[22] That is, completely dominated by the words (*logogenic*), completely dominated by melodic ornaments (*pathogenic*), or oscillating between the two extremes without becoming either (yet never becoming melogenic for that matter).

[23] Nevertheless most of the many parallels between ancient synagogue and ancient church music cannot be traced back to the Temple. Much of both must have been borrowed from the Gentiles, as history records and as comparative musicology affirms.

latter (including Gérard E. Weil[24]) even acknowledged with the rest the expressiveness of the musical results and its correlation with certain forms of synagogue chant. The second edition of the book (1978) received the Prix Bernier, the highest award of the Institute of France.

One of the most notable respondents was the late Chief Rabbi of France, Jacob Kaplan, who was renowned for his knowledge of Jewish tradition and his personal character. As he wrote in his reply, and as Mme. Haïk-Vantoura and her translator Dennis Weber clarified for me, he put his *full weight of Rabbinic authority* behind her work – and he was *astonished* (as Dr. Weber told me) that others did not follow suit. The Rabbinic community in Europe and Israel – though *not* the musical community in those places to my knowledge – has essentially turned its back on her work at this point.[25]

Reception in America of Haïk-Vantoura's work among the Jewish, Christian and academic communities has likewise been mixed. In 1985 I attended the one American concert sponsored by Haïk-Vantoura (in San Francisco) and met her and Dr. Weber for the first and only time. As they told me, and as I noted myself, some were skeptical and some were interested indeed. As one rabbi in the latter category said, "If this were not the music of the Temple, *it should have been*!" "The problem is getting 100 rabbis to say that," added Haïk-Vantoura.[26] Yet since the publication of other recordings and the 1991 English book, plus articles by me in various journals, word has been "getting out" and interest in the subject has been growing.

I am gratified to learn that others besides me are making use of Haïk-Vantoura's work and even expanding it. Mezzo-soprano Esther Lamandier in France and Haïk-Vantoura's longtime assistant Gilles Tiar in Israel continue to perform Haïk-Vantoura's music. Soprano and vocal music professor Myra Zakai in Israel has performed on one recording. Sr. Lucie Marie, in cooperation with Mme. Lamandier, continues to produce new musical scores based on Haïk-Vantoura's deciphering key. SAVAE, an early music ensemble in San Antonio, Texas, has recently released a recording (*Ancient Echoes*) containing a creative rendition of the "Priestly Blessing" (Numbers 6:22-27) by Haïk-Vantoura, and may do more of her *oeuvre* in the future. Javier Mejia of Colombia has created a vocal/instrumental ensemble, SHOFAR, for the explicit purpose of performing and promoting Haïk-Vantoura's work; and he is working with an existing vocal ensemble in Argentina toward the same end. Among music and Bible teachers, Dr. Frank Garlock and Dr. Samuel Bacchiochi (among several others) in the United States have mentioned the work with great favor. The Associates for Biblical Research and Southwest Radio Church, among the first to announce Haïk-Vantoura's work in the U.S., have been very supportive. Sales of and interest in the one recording still available in the U.S. have been good and consistent for that genre of recording, even so many years after its original publication.

My own assessment of the response to Haïk-Vantoura's thesis is this: To the extent that reviewers have understood the historical and musical logic behind her

[24] Who told her in writing that her work was "very dangerous" to his own computer-based analysis, which assumed the *te`amim* are *non-musical* and which was based strictly on the Masoretic paradigm.
[25] What Dr. Benjamin Duvshani, who was interviewed in 1986 by NPR on Haïk-Vantoura's work, thinks now is anyone's guess. He was then head of the Rabbinical School in Paris, and was deeply impressed (as were his audiences) by Haïk-Vantoura's renditions on the first recording.
[26] Again, different cantors I've encountered have had different reactions – mostly positive, but not all (at least in the technical sense). Few indeed, though, have had anything but praise for the beauty of my own renditions of the reconstructed music. For my part, I published an article in a respected journal, *The Journal of Jewish Music and Liturgy*, which seems to have been well-received.

decipherment, *to that extent* they have supported her results.[27] One suspects that "preferring old wine to new" has as much to do with the negative reception of many as anything, for one has to unlearn literally *millennia* of false assumptions to "get to the heart" of the matter musically and historically. Haïk-Vantoura, having never learned those assumptions in the first place,[28] has done what *no one else* has done: given a complete, coherent and simple explanation of the features of the "Tiberian" accentuation and its relationship to the words.

FUTURE RESEARCH

In closing, it must be said that the greatest need is the republication and distribution of Mme. Haïk-Vantoura's out-of-print scores, and the production of new ones. Most of her melody-only scores were based on handwritten texts which were then photocopied.

The greatest need in the academic sense is research on the background of the Letteris Edition used by Haïk-Vantoura. I have compared its accentuation in a number of critical places, especially in Psalms, with the Ginsberg Edition, the BHS, the old Rabbinic Bible (Ben Chayyim text), the Snaith Edition, and a number of other editions both ancient and modern. Of all of these, only the Ginsberg Edition is reasonably close overall to Letteris, and even there it has significant variants in Psalms. Yet in virtually every case, the reading in Letteris is superior under Haïk-Vantoura's key to that of any other edition. This does not seem to be an artifact of the analysis, for there is always the syntax (and meaning) of the verbal text to use as a cross-check – and generally the variants themselves are "law-abiding" within the rules of the accentuation. Why is Letteris so superior,[29] even to the second-oldest complete Masoretic manuscript extant?[30]

Dr. Norman Snaith (editor of the Snaith Edition) suggested in an old article that a particular 11th-century manuscript now in Germany might have been the source text used by Meir ha-Levi Letteris in the late 1800's. A seminarian friend persuaded the relevant museum to make a microfiche of the manuscript and to loan it, and I was able to compare it with Letteris. As Snaith indicated, it had accentual readings found in Letteris that are found in no other printed edition seen by either my friend or I. However, the manuscript itself is so non-standard[31] that I judge it

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[27] Even James D. Price admits this. On the one hand, he has stated that most of his fellow Hebraists don't accept Haïk-Vantoura's thesis because it flies in the face of synagogue chant. On the other hand, he acknowledges that most Hebraists don't have the musical background to follow her logic.

[28] While she grew up in the synagogue community, she herself was a Reform Jew. As noted earlier, she started from the perspective of French musicologists at the time (as published in, a French encyclopedia of music): the *te`amim* are *ancient*, *musical* and (then) of *unknown meaning*.

[29] Leaving aside certain obvious typographical errors which Haïk-Vantoura followed scrupulously in her scores.

[30] I do not have a facsimile of the Aleppo Codex, the oldest complete manuscript before it was partially burned. (Only recently have I obtained the Jerusalem Crown edition, which is based as much as possible on the Aleppo Codex.) Haïk-Vantoura was able to compare Letteris with such a facsimile, found at the National Library in Paris, checking places I recommended to her and finding matches between the two there. (It may be that in terms of accentuation, Letteris' source manuscript may be superior even to the Aleppo Codex, though they seem to be similar overall in that respect.) She had also made comparisons of her own with the Bomberg Bible and the Codex of the Prophets before her French book was published. The Letteris Edition was recommended by none other than Gérard E. Weil, who was among the scholars that worked on the BHS edition.

[31] Not only does it omit words in important places, but it has the so-called "expanded Tiberian pointing", a non-standard accentuation which uses additional graphemes and unorthodox sequences of graphemes. It is known that the "Tiberian" notation at first intermingled with the Palestinian and Babylonian notations before finally supplanting them. Is this manuscript an example of such a "mixed" manuscript?

could not possibly be the source of the Letteris Edition. That edition appears from internal evidence to be *self-consistent* in its spelling, vowelization and accentuation, suggesting a single-manuscript source (or else a very consistent editorial policy if more than one manuscript and/or printed edition was used).

With that particular problem solved, much could be investigated not only in terms of reconstructing the "music of the Bible" and its exegetical significance, but in terms of textual criticism of the accentuation of the Masoretic Text itself. I do not think one person, or one lifetime, will begin to address all the questions that could be raised on the technical level.

CONCLUSION

Nevertheless, the evidence we have is consistent with this conclusion: *The Hebrew Bible was created, taught and transmitted as a specialized form of "art song".* It was written not by merely literary authors but by *inspired poet-composers*, who used *universal principles of music composition* for a *specific purpose* in a *specific culture*. It was originally meant to be *sung aloud*, and in principle to *plucked-string accompaniment* (Psalms 119:54), just as the Greek New Testament in principle was originally meant to be *read aloud* (Revelation 1:3).

Not merely the Psalms and songs of the Hebrew Bible are "vocal music", then. The entire Hebrew Masoretic Text, "from Moses to Chronicles" (or "from Moses to Malachi", in the Christian canonical order), has that distinction. Haïk-Vantoura's work shows that not just the "lyrics" but the *melodies* of that vocal music have been preserved without essential change since the close of the Hebrew canon.